

DETAILED ACTION

Examiner's Amendment

- [01] An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- [02] The application was subject to an election of species requirement. Applicant elected the embodiment of Figure 3A with traverse. Examiner made the restriction final and claims 18, 20-23, 35-37, drawn to the embodiment of Figure 3B, were withdrawn. Applicant later added new claims 38-43 which were also drawn to the non-elected embodiment, and amended claim 33 to depend on claim 38. Finding the independent claim to be allowable, Examiner sought an Examiner's Amendment through which claims 18, 20-23, 33, and 35-43 would be canceled.
- [03] Authorization for this examiner's amendment was given in a telephone interview with Mr. Caleb Pollack on 2/13/12. The application has been amended as follows.
- [03a] Withdrawn claims 18, 20-23, and 35-37 are canceled.
- [03b] New claims 38-43 are canceled.
- [03c] Amended claim 33 is canceled.

Allowable Subject Matter

- [04] Claims 1,4,7,15-16,31-32 are allowed. The following is an examiner's statement of reasons for allowance.
- [05] In addition to the usual elements of capsule endoscope – a camera and a light source operating from behind an optical window – Applicant provides a light detector located elsewhere on the

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capsule. The photodetector receives light from the surrounding environment “not via the optical window” (see claim 1 as amended). Although other capsules disclose sensors on the outer surface of the capsule¹, and some in fact disclose photodetectors on the outer surface of the capsule², none disclose a processor that utilizes the information gathered as required by claim 1. In particular, claim 1 requires that the processor “determine the movement” of the capsule from a first large-diameter lumen to a second small-diameter lumen based on the amount of light that reaches the photodetector.

[06] When in use, the capsule is typically the only source of light within the body lumen. Applicant discovered that in large-diameter lumens, light emitted via the capsule's optical window and reflected by the lumen would reach other outside surfaces of the capsule, whereas in small-diameter lumens, far less light would reach those same surfaces. By placing a photodetector at such positions on the surface of the capsule, Applicant could use measurements of light incidence at those surfaces in order to determine when/if the capsule had traveled from a large-diameter lumen to a small-diameter lumen. Claim 1 recites a processor structured to make such a determination.

[07] Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

[08] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R Smith whose telephone number is (571) 272 6087 and whose email address is

¹ Glukhovsky (2006/0155174), Halla (7,399,274), Montalbo (7,044,908)

² Iddan (7,251,383), Gilad (2004/0204630), Meron (2002/0109774)

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philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen, can be reached on (571) 272 4963. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip R Smith/
Primary Examiner, Art Unit 3779